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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,777	10/17/2003	Philippe Barre	402842/WEINSTEIN	7736

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EXAMINER	
YAN, REN LUO	
ART UNIT	PAPER NUMBER
2854	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/686,777	BARRE ET AL.	
	Examiner	Art Unit	
	Ren L. Yan	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-13, 20, 22 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al(5,352,507) in view of Busshoff et al(6,703,095) and Berna et al(5,347,927). The patent to Bresson et al teaches a seamless multilayered printing sleeve as claimed including a printing layer 6, a compressible layer 4 and a circumferential stiffening layer 5 disposed between the printing layer 6 and the compressible layer 4. The stiffening layer 5 functions as a reinforcing layer placed on the compressible layer and is made of fibrous polymer oriented circumferentially as shown in Fig. 11. Bresson et al teach that the reinforced layer 5 could have a thickness of 1 mm and the oriented fibers reinforce the elastomer layer 5 such that the modulus of elasticity in the circumferential direction is at 200 MPa or more. See the entire Bresson patent for details. However, Bresson et al does not teach the thickness of the reinforce layer 5 to be 0.5 mm or less and does not state to what extent the modulus of elasticity in the circumferential direction should go beyond the 200 MPa as stated.

The patent to Busshoff et al teach a thin-walled reinforced sleeve for a printing cylinder the conventionality of using a reinforced fibrous polymer layer 12 disposed on top of a compressible layer 34(Fig. 6) and the thickness of the reinforced layer 12 is about between 0.1 mm to 0.8 mm. See also in column 7, lines 14-45 and column 8, lines 46-55 in Busshoff et al for

example. It would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al with a thin-walled reinforced polymer layer as taught by Busshoff et al in order to control the overall thickness of the printing sleeve and at the same time achieve the exceptionally high tensile strength in the circumferential direction.

The patent to Berna et al teaches in a similar multilayered printing sleeve the conventional use of a spirally-integrated reinforced layer 14 underneath the printing layer 12 that has a tensile modulus in the circumferential direction of 50-2000 MPa and the modulus of compression, in the radial direction is 5 to 50 MPa. Berna et al stated that the use of such reinforced compressible layer 14 with sufficient stiffness might result in that no further carrier or tube is needed for mounting the endless printing element 10 directly around a cylinder. See Figs. 1-4 and column 9, line 56 through column 10, line 24 in Berna et al for example. It would have been obvious to those having ordinary skill in the art to further modify the printing sleeve of Bresson et al by providing the fiber reinforced layer of Bresson et al, as modified by Busshoff et al with modulus of elasticity in the circumferential direction at 400 MPa or more and in the radial direction at 50 MPa for the advantage that no further carrier or tube is required for mounting the endless printing sleeve directly around the printing cylinder so as to cut manufacturing cost.

Regarding claims 2 and 20, the broadly recited removal facilitating layer reads on layers 9, 10, or the polymeric release sheet described in column 12, lines 14-26 in Bresson et al. Regarding claim 7, see column 6, lines 7-59 in Bresson et al. Regarding claim 8, Bresson teaches in column 8, lines 9-24 that the reinforcing layers 7 and 7a could have a thickness of about 0.1 to 0.5mm. Regarding claim 22, Bresson teaches in column 9, lines 38-48 that the

removal facilitating layer is made of a heat-shrinkable material. With respect to claim 6, Bresson may not state the wt% of the reinforcing layer and the reinforcing elements. However, from Fig. 11 of Bresson, it would appear that the 20-80wt% of the reinforcing layer and elements are most likely met by the teaching of Bresson. Nevertheless, in order for the reinforcing layer to be effective in preventing bulges and undulations in compressible foam layers during operation, one of ordinary skill in the art would be able to determine the proper wt% of the reinforcing layer and the reinforcing elements based upon routine experimentations in order to achieve this objective. Such a determination by those skilled in the art through routine experimentations would have been most obvious. Regarding claim 11, Bresson did not give the elongation at breakage tolerance percentage for the reinforcing layer. It is noted that the elongation at breakage for the reinforcing layer to be at greater than 1.2% is fairly small. The reinforcing layer of Bresson would most likely possess this property since the printing sleeve of Bresson would undergo an expansion in a circumferential direction upon being mounted onto or demounted from a printing cylinder. However, one of ordinary skill in the art would be able to determine the elongation at breakage tolerance of the reinforcing layer through routine experimentations in order for the printing sleeve to work properly as intended and such a determination would have been obvious. With respect to claim 13, the circumferential stiffening layer 5 of Bresson is attached to the compressible layer 4 at an approximate angle of 45 degrees as shown in Fig. 11 and has a modulus of elasticity in the circumferential direction, as modified by Busshoff, in the range of 50-2000MPa, it should be clear to those skilled in the art that the modulus of elasticity of the circumferential stiffening layer 5 in the X-component, (along the axis of the cylinder 1) would have to be greater than 100 MPa as recited. With respect to claims

25 and 26, Bresson teaches all that is claimed except for the thickness range, the surface Ra factor and the friction of coefficient of the removal facilitating layer. It should be apparent to those having ordinary skill in the art that the thickness range, the surface Ra factor and the friction of coefficient of the removal facilitating layer of the printing sleeve are selected for the removal facilitating layer to achieve its optimal performance during the printing sleeve mounting and demounting operations. It would have been obvious to those skilled in the art to determine those variables through routine experimentations. With respect to claim 27, Bresson et al do not specify the thickness of the printing layer 6. Berna et al teach in column 3, last paragraph that the printing layer 12 of the endless sleeve has a radial thickness of 0.05 to 0.6 mm. In view of the teaching of Berna et al, it would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al with a printing layer having a thickness of less than 0.5 mm since it is a well known thickness for a printing layer to ensure proper printing operations.

Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Castelli et al(5,754,931). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of microspheres in the compressible layer. Castelli et al teach in a printing blanket the conventionality of using microspheres that undergo a thermal expansion to form a compressible layer in the printing blanket. See column 3, line 64 through column 4, line 51 in Castelli et al for example. In view of the teaching of Castelli et al, it would have been obvious to those having ordinary skill in the art to provide the printing sleeve of

Bresson et al, as modified by Busshoff et al and Berna et al with a compressible layer made of microspheres in order to achieve increased compressibility of the compressible layer.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Kia et al(6,699,419). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of a gel coat to produce the removal facilitating layer. Kia et al teach in a molding process the conventional use of a mold release agent on the surface of the mold and a gel coat layer is applied onto the dried surface of the mold so as to facilitate the removal of the molded object. See column 4, lines 27-42 in Kia et al for example. It would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al, as modified by Busshoff et al and Berna et al with the release agent and the gel coat layer as taught by Kia et al so as to facilitate the mounting and demounting of the printing sleeve with respect to the printing cylinder.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Asai et al(2002/0182328). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of an electrostatically applied layer of powder to produce the removal facilitating layer. Asai et al teach in a process of making a sleeve the conventional use of fluoropolymer powders electrostatically coated and baked to form a smooth release resin layer for the sleeve. See [0041] in Asai et al for example. It would have been obvious to one of ordinary skill in the art to provide the printing sleeve of Bresson et al, as modified by Busshoff et

al and Berna et al with the electrostatically coated powder layer to function as the removal facilitating layer so as to facilitate the mounting and demounting of the printing sleeve.

Applicant's arguments filed 10-18-2006 have been fully considered but they are not persuasive. With respect to the rejection under 35 USC 103 against claims 1-13, 20, 22 and 24-28, applicant's main arguments are that the structure of the printing blanket of Bresson is so different from the printing sleeve of Busshoff and the printing element of Berna that the teachings of Busshoff and Berna cannot be combined with those of Bresson and the combination of the teachings of Bresson with Berna and Busshoff are impermissibly based on hindsight. These arguments are not persuasive for the following reasons: In an effort to prove that the structure of the printing blanket of Busshoff is different from that of Bresson, applicant stated that Busshoff teaches , in every example, a base sleeve 12 carrying a compressible layer, which in turn carries an imageable layer 14. Applicant also pointed out that in Figure 4, the radial innermost layer is base layer 12. Applicant then stated that in contrast, the printing blanket of Bresson has a totally different structure than that taught in Busshoff since the elastomer layer 5 of Bresson is positioned between compressible layer 4 and surface layer 6. Therefore, one of ordinary skill in the art would not be motivated to consider the teachings of the thickness of a base layer 12 that supports, rather than lies between, both the compressible layer 13 and the imageable layer 14. Applicant then went on to conclude that there is absolutely no teaching in Bresson or Busshoff that would lead one of ordinary skill in the art to choose the thickness of a radially internal layer of Busshoff and apply it an intermediate layer 5 of Bresson. Applicant's argument is totally misdirected. The Examiner wishes to point out that not every example in Busshoff teaches a base sleeve 12 carrying a compressible layer13, which in turn carries an

imageable layer 14 as stated by the applicant. Fig. 6 of Busshoff clearly shows that the reinforced layer 12 is positioned in between the compressible layer 34 and the surface layer 14 and the outstanding Office action on page 3 clearly pointed out that the structure shown in Fig. 6 of Busshoff is relied on to provide the motivation to one of ordinary skill in the art to apply the thickness teaching of the reinforce layer 12 of Busshoff to that of Bresson. Apparently, applicant, in preparing the response to the outstanding Office action, ignored the position taken by the Examiner and directed arguments toward a non-existent combination allegedly proposed by the Examiner. With respect to the applied Berna reference, applicant argued that applying the teachings of Berna to the sleeve of Bresson would result in a structure that only includes the external printing layer of Bresson being supported by the spirally integrated structure 14 of Berna and therefore, the proposed combination of Bresson in view of Berna is impermissibly based on hindsight. In response to applicant's argument that the proposed combination of Bresson in view of Berna would result in a different structure as intended by Bresson, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The patent to Berna et al teaches in a similar multilayered printing sleeve the conventional use of a spirally-integrated reinforced layer 14 underneath the printing layer 12 that has a tensile modulus in the circumferential direction of 50-2000 MPa and the modulus of compression, in the radial direction is 5 to 50 MPa. Berna et al stated that the use of such reinforced compressible layer 14 with sufficient stiffness might result

in that no further carrier or tube is needed for mounting the endless printing element 10 directly around a cylinder. See Figs. 1-4 and column 9, line 56 through column 10, line 24 in Berna et al for example. The clear teaching of Berna would have motivated one of ordinary skill in the art to further modify the printing sleeve of Bresson et al by providing the fiber reinforced layer of Bresson et al, as modified by Busshoff et al with modulus of elasticity in the circumferential direction at 400 MPa or more and in the radial direction at 50 MPa for the advantage that no further carrier or tube is required for mounting the endless printing sleeve directly around the printing cylinder so as to cut manufacturing cost.

Applicant's arguments regarding the rejections of claims 14-19 and 21 have also been considered and are not persuasive. It is the position of the Examiner that the combinations proposed in each of the rejections were made with proper motivations and thus are maintained.

In view of the forgoing, it is believed that the above rejection under 35 USC 103 over Bresson in view of Busshoff and Berna against claims 1-13, 20,22 and 24-28 is proper and thus is maintained. It is also believed that the above response has adequately addressed the main points contained in applicant's arguments.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ren Yan

Ren L Yan
Primary Examiner
Art Unit 2854

Ren Yan
Dec. 21, 2006